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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,870	01/31/2002	Huimin Chiu	SUN-P7343	2196
32291	7590	11/14/2005	EXAMINER	
MARTINE PENILLA & GENCARELLA, LLP			NGUYEN, QUANG N	
710 LAKEWAY DRIVE			ART UNIT	
SUITE 200			PAPER NUMBER	
SUNNYVALE, CA 94085			2141	

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/062,870

Applicant(s)

CHIU ET AL.

Examiner

Quang N Nguyen

Art Unit

2141

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 18 October 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because

(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);

(b) ☐ They raise the issue of new matter (see NOTE below);

(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: None.

Claim(s) objected to: None.

Claim(s) rejected: 1,2,4-7,9-12,14-17,19 and 20.

Claim(s) withdrawn from consideration: None.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See attachment.

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____

13. ☐ Other: _____.

Detailed Action

1. This Office Action is in response to the Request for Reconsideration filed on 10/18/2005. Claims 1-2, 4-7, 9-12, 14-17 and 19-20 remain for examination.

Drawings

2. The drawings were received on 10/18/2005. These drawings are acceptable.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-2, 4-7, 9-12, 14-17 and 19-20 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in the Background of the Invention, in view of Haviv (US 2002/0059451 A1).**

5. As to claim 1, **AAPA** teaches in **Fig. 1**, a system for exchanging data, comprising:

a Network File System component for generating a file request in response to a system call (*NFS 140 generates a file request and forwards the request to the External Data Representation (XDR) layer 150*) (AAPA, Fig. 1 and page 3, lines 2-4);

an External Data Representation component for describing the format of said file request (*XDR layer 150 is a representation layer standard which provides a common way of representing a set of data types over a network*) (AAPA, Fig. 1 and page 3, lines 6-7);

a Remote Procedure Call component for initiating said file request with a remotely located computer system (*RPC 160 provides a mechanism for one host to make a procedure call that appears to be part of the local process but is really executed remotely on another computer on the network*) (AAPA, Fig. 1 and page 3, lines 10-12).

However, **AAPA** does not explicitly teach a unifying layer for communicating said Remote Procedure Call with one of a plurality of transport layer Remote Direct Memory Access implementations used to exchange data with said remotely located computer system, wherein the unifying layer isolating the Network File System component, the application, the External Data Representation component and the Remote Procedure Call component from modifications to enable the plurality of transport layer Remote Direct Memory Access implementations, the unifying layer including, a first component for converting said Remote Procedure Call to a Remote Direct Memory Access formatted message; and a second component for communicating said Remote Direct Memory Access formatted message to a particular transport layer Remote Direct Memory Access implementation.

In a related art, **Haviv** teaches a system 10 maybe implemented in an RDMA network environment using multiple protocols such as Socket Direct Protocol (SDP), Direct Access File System (DAFS), and SCSI RDMA Protocol (SRP) over technologies such as Virtual Interfaces (VI) and InfiniBand (IB), wherein a kernel software element that may receive RDMA operation (*such as moving memory blocks to and from the requestor*) without involving the higher-level layers and/or the application (*i.e., isolating the Network File System component, the application, the External Data Representation component and the Remote Procedure Call component from modifications*) (**Haviv, paragraph [0019]**). **Haviv** also teaches the direct flow of data between client 12 and server 14 could be implemented using RDMA mechanisms, wherein the communication hardware 36 of client computer 12 and server 14 includes new System Area Network (SAN) technology, for example Virtual Interfaces (VI), InfiniBand (IB), Fiber-Channel, SCSI, ATM, RDMA over TCP/IP network and even expanded Ethernet, to provide special communication capabilities of transferring data reliability directly from process to process (*i.e., communicating data/message such as Remote Procedure Call with one of a plurality of transport layer Remote Direct Memory Access implementations used to exchange data*) (**Haviv, paragraph [0044]**), wherein an application interface 34 (*i.e., a transport provider and/or a socket application*) maybe software adapted to convert the transactions and commands received in a new type protocol over technologies such as InfiniBand or Virtual Interface using RDMA operations to standard applications and/or session network layers of the OSI model and vice versa (*i.e., a first component for converting said Remote Procedure Call to a Remote Direct Memory Access formatted*

message) (**Haviv, paragraphs [0049 and 0050]**); and adapted to send the converted commands and essential parameters to server 14 via the communication hardware 36 using new SAN technologies such as VI, IB, SCSI, ATM, RDMA over TCP/IP network and even expanded Ethernet (*i.e., a second component for communicating said Remote Direct Memory Access formatted message to a particular-transport layer Remote Direct Memory Access implementation*) (**Haviv, paragraph [0044, 0049 and 0050]**).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of **AAPA** and **Haviv** to include a unifying layer (*the communication hardware 36 layer of Haviv*) for communicating said Remote Procedure Call with a plurality of transport layer Remote Direct Memory Access implementations used to exchange data with said remotely located computer system as claimed since such methods were conventionally employed in the art to provide the system special communication capabilities of transferring data reliability directly from process to process (*such as moving memory blocks to and from the requestor*) without involving the higher-level layers and/or the application in order to free the processing unit of the receiving computer from involvement with the data transfer, thus speeding up overall computer operation (**Haviv, paragraph [0014]**).

6. As to claim 2, **AAPA-Haviv** teaches the system for exchanging data as recited in claim 1, wherein one of said plurality of Remote Direct Memory Access implementations is the Virtual Interface Architecture (**Haviv, paragraph [0044]**).

7. As to claim 4, **AAPA-Haviv** teaches the system of claim 3, further comprising a plurality of said second components for communicating said Remote Direct Memory Access formatted message to various transport layer Remote Direct Memory Access implementations (*a computer 30 may comprise one or more application interfaces 34 adapted to capture the commands and transactions, process them and then send them to multi-channel communication hardware 36*) (**Haviv, Fig. 3 and paragraph [0041]**).

8. As to claim 5, **AAPA-Haviv** teaches the system for exchanging data as recited in claim 4, wherein the Remote Direct Memory Access protocol is the default transport layer protocol for communicating said Remote Procedure Call (*system 10 maybe implemented in an RDMA network environment using protocols such as socket direct protocol "SDP", direct access file system "DAFS", and SCSI RDMA protocol "SRP" over technologies such as VI and IB*) (**Haviv, paragraphs [0019 and 0049]**).

9. Claims 6-10 are corresponding method claims of system claims 1-5; therefore, they are rejected under the same rationale.

10. Claims 11-15 are corresponding computer system claims of system claims 1-5; therefore, they are rejected under the same rationale.

11. Claims 16-20 are corresponding computer-usable medium claims of system claims 1-5; therefore, they are rejected under the same rationale.

Response to Arguments

12. In the remarks, Applicant argued in substance that,

(A) Prior Arts do not teach or suggest, “a first component for converting said Remote Procedure Call to a Remote Direct Memory Access formatted message”, as claimed.

As to point (A), **Haviv** teaches the direct flow of data between client 12 and server 14 could be implemented using RDMA mechanisms, wherein the communication hardware 36 of client computer 12 and server 14 includes new System Area Network (SAN) technology, for example Virtual Interfaces (VI), InfiniBand (IB), Fiber-Channel, SCSI, ATM, RDMA over TCP/IP network and even expanded Ethernet, to provide special communication capabilities of transferring data reliability directly from process to process (i.e., communicating data/message such as Remote Procedure Call with one of a plurality of transport layer Remote Direct Memory Access implementations used to exchange data) (Haviv, paragraph [0044]), and wherein the application interface 34 (as illustrated in Fig. 3) maybe software adapted to convert the transactions and commands received in a new type protocol over technologies such as InfiniBand or Virtual Interface using RDMA operations to standard applications and/or session network layers of the OSI model and vice versa (i.e., a first component for converting said Remote Procedure Call to a Remote Direct Memory Access formatted message) (Haviv, paragraphs [0049 and 0050]).

(B) Prior Arts do not teach or suggest, "a second component for communicating said Remote Direct Memory Access formatted message to a particular transport layer Remote Direct Memory Access implementation", as claimed.

As to point (B), **Haviv** teaches the direct flow of data between client 12 and server 14 could be implemented using RDMA mechanisms, wherein the communication hardware 36 of client computer 12 and server 14 includes new System Area Network (SAN) technology, for example Virtual Interfaces (VI), InfiniBand (IB), Fiber-Channel, SCSI, ATM, RDMA over TCP/IP network and even expanded Ethernet, to provide special communication capabilities of transferring data reliability directly from process to process (Haviv, paragraph [0044]), and wherein the application interface 34 (as illustrated in Fig. 3) maybe software adapted to convert the transactions and commands received in a new type protocol over technologies such as InfiniBand or Virtual Interface using RDMA operations to standard applications and/or session network layers of the OSI model and vice versa (i.e., a first component for converting said Remote Procedure Call to a Remote Direct Memory Access formatted message) (Haviv, paragraphs [0049 and 0050]); and adapted to send the converted commands and essential parameters (i.e., to send the converted Remote Direct Memory Access formatted message) to server 14 via the communication hardware 36 using new SAN technologies such as VI, IB, SCSI, ATM, RDMA over TCP/IP network and even expanded Ethernet (i.e., a second component for communicating said Remote Direct Memory Access formatted message to a particular-transport layer Remote Direct Memory Access implementation) (Haviv, paragraph [0049 and 0050]).

Art Unit: 2141

13. Applicant's arguments as well as request for reconsideration filed on 10/18/2005 have been fully considered but they are not deemed to be persuasive.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (571) 272-3880. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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